VOLTEC solar

HAIL SHALL NOT PASS

3.2 mm glass. RG5 hail resistance.
Glass/backsheet module.

Glass produced in Normandy.
Module assembled in Alsace.

Antimony-free circular glass
Unlike conventional PV glass

RG5
HAIL RESISTANCE

GLASS MADE IN
NORMANDY

MODULE MADE IN
ALSACE

Who are we?

PV module manufacturer

Our factory

Our team

100+ employees

500 MW annual capacity

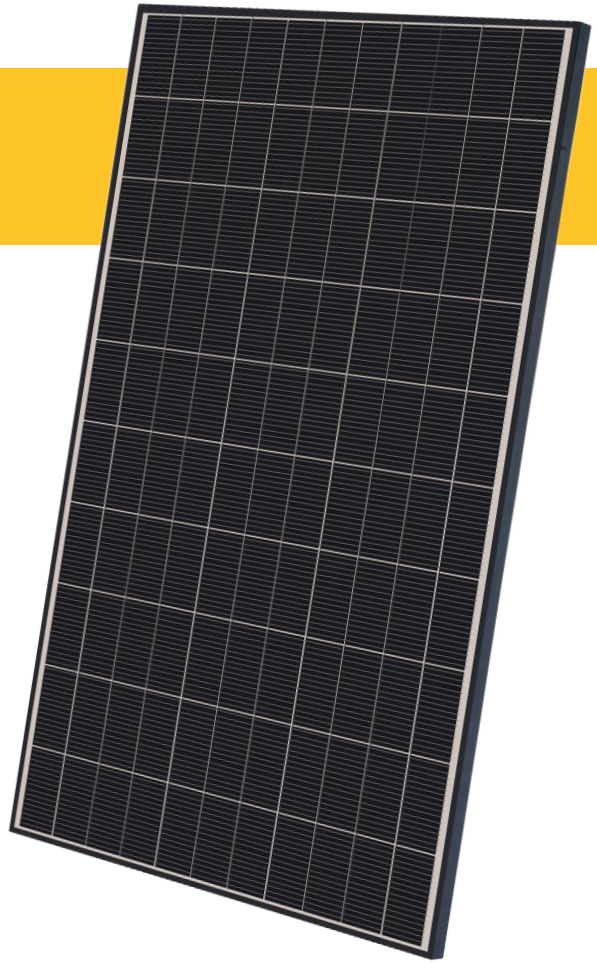
1 million PV modules per year

Product line – G12R - TOPCon

TARKA S 100R

1868 x 1115 x 35 mm, 21,8 kg

460 – 475 W



TARKA L 110R

1868 x 1220 x 35 mm, 23,8 kg

500 – 515 W

Custom options :

Each option is available individually or in combination

- Anti-glare
- Color - black/white/red/brown/etc.
- RG4 or RG5
- Bifacial

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Hail is a major insurance risk

Financial impact	Likelihood: Low (< 1 %)	Likelihood: Moderate (1 % – 5 %)	Likelihood: High (5 % – 15 %)	Likelihood: Critical (> 15 %)
Critical (> 15 %)			Rooftop fire Ground-mounted hail	
High (5 % – 15 %)			Rooftop hail Ground-mounted fire	
Moderate (1 % – 5 %)		Equipment failure	Extreme storms	Inverter failure
Low (0,1 % – 1 %)		Thunderstorms, Transformer failure		
Residual (<0,1%)	Earthquake	Flood, theft / vandalism		

Risk reduction starts with design

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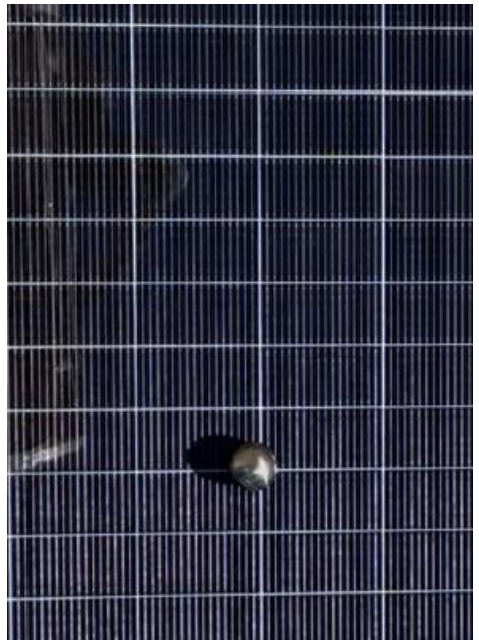
Voltec’s answer: TARKA DIAMANT

Extreme mechanical resistance — stronger than a roof tile

Standard PV module
2x2 mm
Impact failure

TARKA DIAMANT
RG5 hail resistance
3.2 mm glass/backsheet

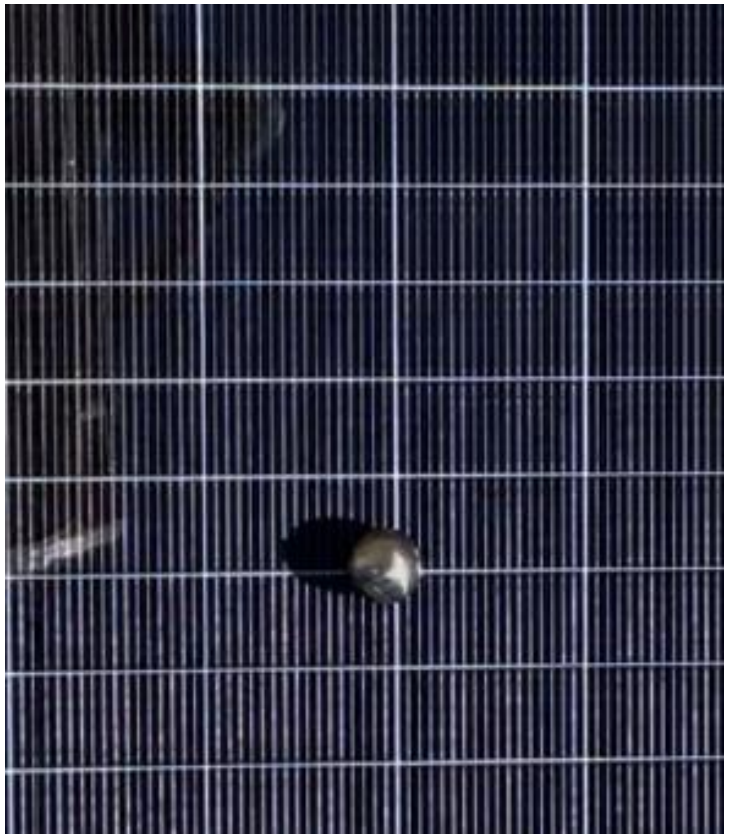


Extreme hail resistance, without extra weight

Standard 2×2 mm glass-glass

26.8 kg

Heavier. Still vulnerable.



22.8 kg

Lighter.

Stronger than iron balls

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Glass: the overlooked component

Not just a transparent cover

- Transmission
- Soiling
- Hail
- Fire
- Moisture

🎯 **Performance. Ageing. Safety.**

Solar glass comparison

	2 mm glass (heat strengthened)	3,2 mm glass (tempered)	VOLTEC DIAMOND 3,2 mm (extra-tempered float)
Hail resistance	RG3 / 35 mm	RG4 / 45 mm	**RG5+ / 55 mm**
Thermal shock resistance	> 100°C	> 200°C	**> 300°C**
Soiling sensitivity	High	High	**Low**
Circular glass	Limited (antimony)	Limited (antimony)	**Yes (Antimony-free)**

Stronger against hail. Stronger against thermal shock. Easier to recycle.

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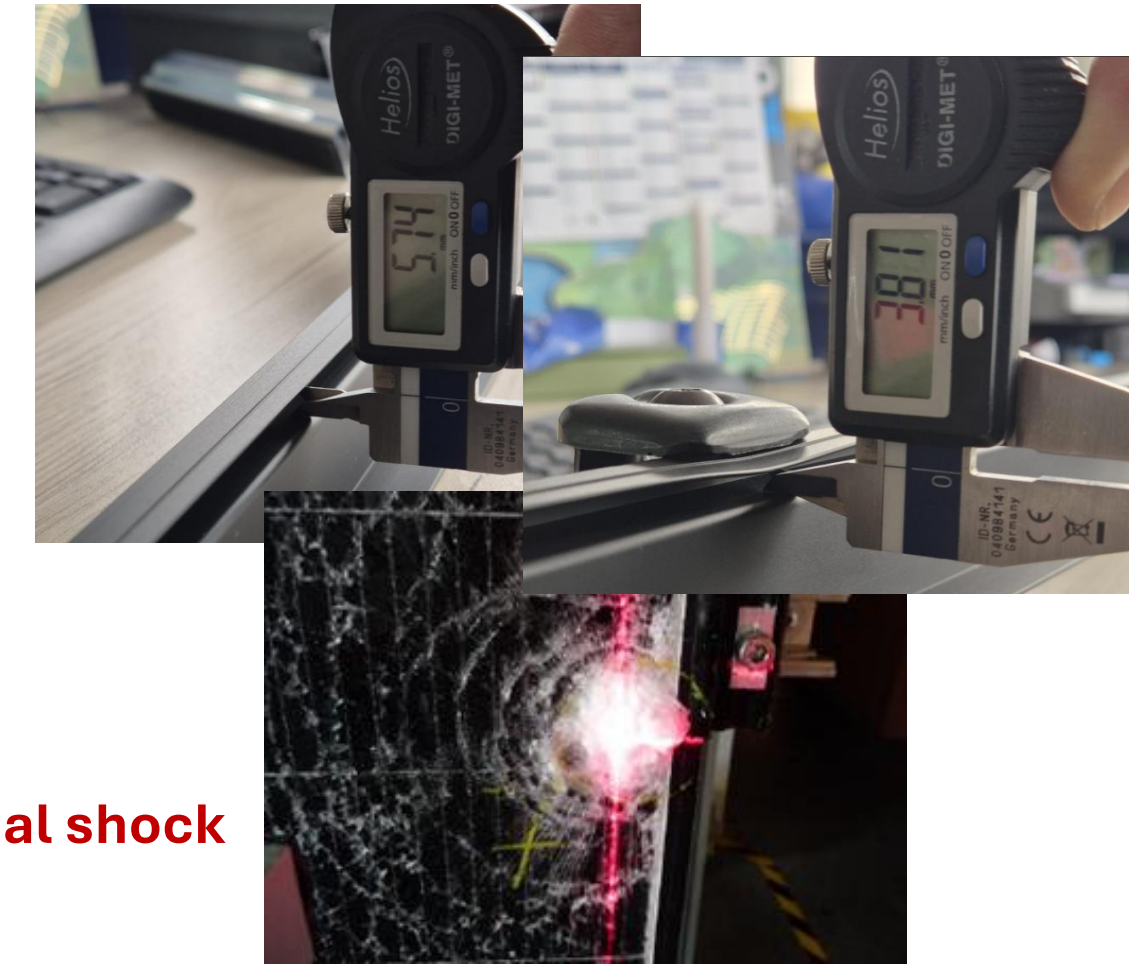
The best glass alone is not enough

Mounting conditions can weaken the module

- Clamp size
- Clamping torque
- Stress distribution in the glass
- Frame design



Poor mounting creates local stress

Local stress increases sensitivity to **hail** and **thermal shock**

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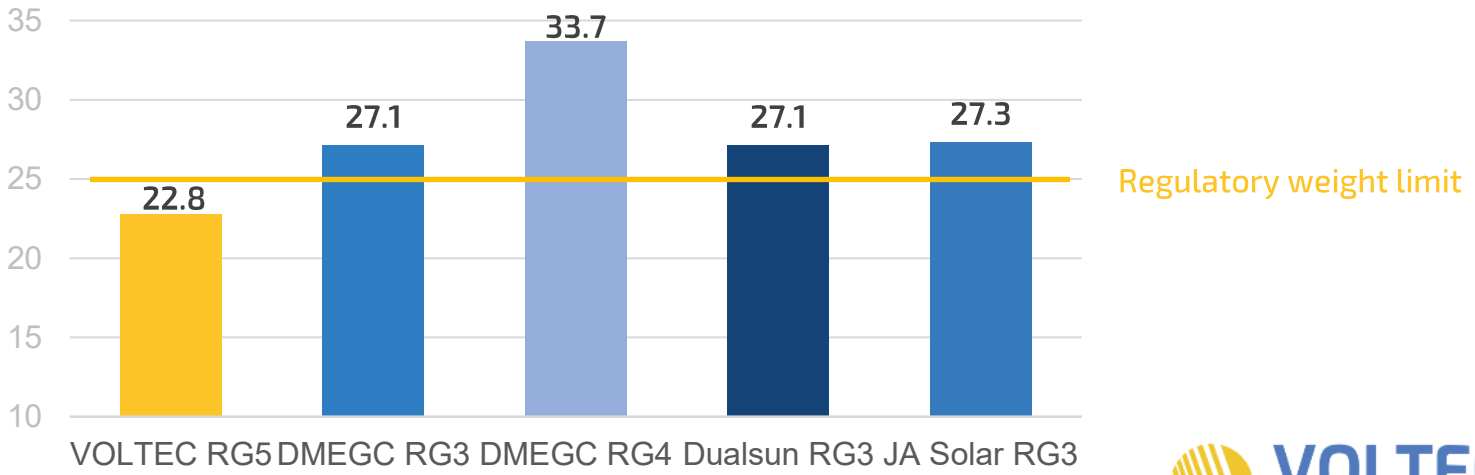
Lightweight, without compromising resistance

Lightweight modules

- Better weight-to-power ratio
- Easier handling on site
- Less glass, higher resistance



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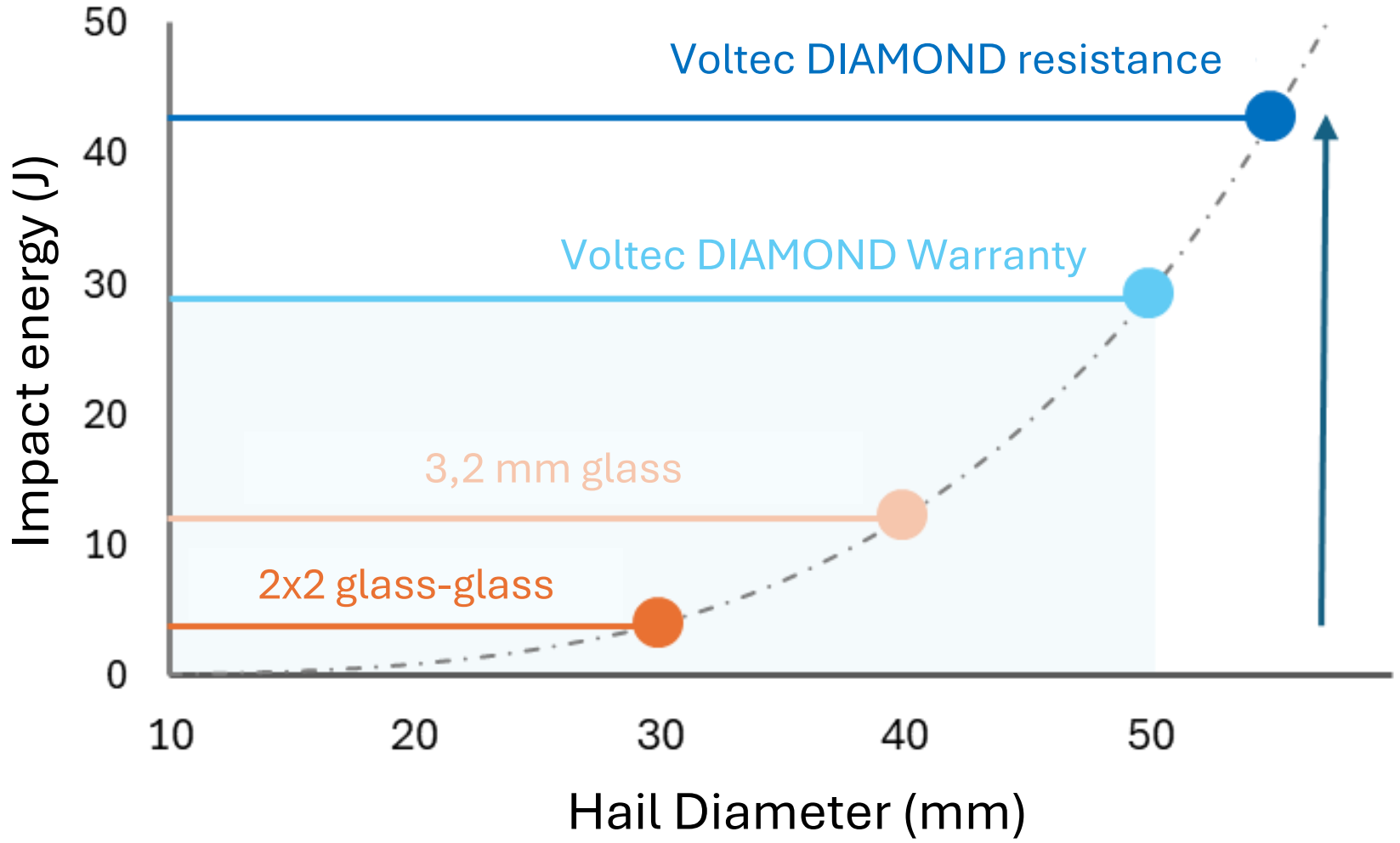
Manufacturer hail warranty

Performance backed by Voltec



10x more resistant

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More robust modules reduce overall project cost

Angoulême train station

3.2 mm glass — transparent backsheet module

1200 J impact resistance – RG5

No additional protective nets or barriers required

Safer
Simpler
More economical

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